AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

" *O fortunatos nimium sua si bona norint*
" *Agricolas.*" . . . . VIRG.

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AGRICULTURE.

A DISCOURSE, READ BEFORE THE

Essex Agricultural Society,

IN MASSACHUSETTS, FEBRUARY 21, 1820,

Suggesting some Improvements in the Agriculture of the County.

BY TIMOTHY PICKERING,

PRESIDENT OF THE SOCIETY.

[*Concluded from Vol. II, No. 10, Page 75.*]

III. ON INDIAN CORN AND WINTER-GRAIN.

The ancient, and to this day the general practice, in cultivating Indian corn, has been to plant it in squares, and in the course of its growth to draw up earth about the stems of the plants, forming *hills;* under the idea of supporting them against strong winds; but the necessity or utility of this practice has long been doubted. I have sometimes cultivated Indian corn without raising any hills about the plants; and, from the result, am satisfied that hills are not necessary. If, indeed, winter wheat, or rye, is to be sown among the corn, at its last dressing, I think the hilling must be injurious; for the richer mould being drawn up into hills, the intervals are robbed of what is requisite to produce an even crop.

I am aware that some intelligent farmers consider it bad husbandry to sow winter grain among Indian corn—to *double-crop* the ground. But if this be *rich*, and in *fine tilth* by deep ploughing, before the corn crop is put in, and good and clean tillage accompanying its growth, I can perceive no solid objection to the practice. With us, the early sowing of winter grain is of the first importance, to insure a full crop, early ripe, and most secure from mildew. The husbandry of Mr. Ducket, already described, justifies the practice. I know it is already common amongst us; but without the *deep tillage* which enabled him to put in seven crops with only four ploughings. With such complete tillage, of a soil so enriched as to yield forty or fifty bushels of Indian corn to the acre, grown on a level, without hills or ridges; and if, in harvesting the corn, it be cut close to the ground; I see no reason why grass seeds may not properly be sown on the winter grain, in the spring. In this way, may be obtained a crop of Indian corn the first year—a crop of wheat or rye the second year—and hay the third and fourth years; and all from one deep ploughing, and a handsome culture of the Indian corn.*

By the early sowing of winter grain among Indian corn, it quickly vegetates, and sends forth numerous branches; and soon covering the ground, prevents or checks the growth of weeds. Probably, too, the plants, acquiring so much strength by early sowing, (for the roots must multiply and extend in proportion to the growth above ground) are less liable to be winter-killed.

IV. ON LIVE STOCK.

I have now to present to your notice the other of the three Celebrated English Farmers, described by Arthur Young—Mr. Bakewell—the most distinguished improver of live stock, on principles of his own, in Great Britain. " The principles he began upon (says Mr. Young) were *fine forms, small bones, and a true disposition to make readily fat*, which is indeed inseparable from small bones, or rather fine bones, and fine forms, or true symmetry of the parts." Before Bakewell's day, the rules which governed Breeders of Live Stock, Mr. Young pronounces " a tissue of absurdities."

He began his improvement of sheep, by selecting from the best in his neighbourhood. And so little had any correct principle of improvement been known or regarded, that a guinea or half a guinea extraordinary would give Mr. Bakewell the choice of any sheep in any flock. And his uncommon sagacity enabled him, by the best selections and judicious crossings, to form a breed distinguished above all others, for *the disposition to fatten, early maturity, a form indicating strength of constitution, weight in the most valuable parts*, with *lightness of offals*. Mr. Young expresses his opinion, that there is not a breed of any sort of live stock in Great Britain, that does not derive its improvement from the skill, knowledge, and principles of Mr. Bakewell. Another eminent Agriculturalist declares (and Mr. Young does not think he exaggerates) " that Mr. Bakewell enabled those who followed his ideas, to produce two pounds of mutton where only one was produced before."

Mr. Young adds, that Bakewell was the most careful feeder of stock that he ever met with, and who made his food go the farthest. To horses and cattle in stalls, he did not permit more than a handful of hay to be given at a time; and the same economy was used in all other feeding.—But his stocks were so large as to require one or more persons to be appropriated to that service. This practice, on our small farms, and with our small stocks, cannot be fully adopted: but it may be imitated, in some degree, during the season (winter) most requiring such attention. By feeding them in this manner, the cattle will doubtless *eat more*, but they will *waste less:* so that while, in the whole, no more fodder will be consumed, the stock will be put into much better plight.

Cleanliness, also, will materially contribute to the health and thriving of stock. The common cattle-stalls of our country are so ill-contrived, and so straitened in their dimensions, that the cattle are constrained to lie down, in part in their own dung. This dries and forms a thick coat on their hind quarters, from which they are not relieved till they shed their hair in the spring. They are thus rendered *uncomfortable:* to be *uncomfortable* is to suffer some degree of *pain;* and no one will suppose that animals in *pain* can *thrive*, or *preserve their plight*, with the same food, equally with others perfectly at ease. Even hogs, though prone to wallow in the mire, in warm weather, are always pleased with a dry bed, and thrive best when kept clean. I have some where read an account of an experiment made with two, confined in separate pens, and fed exactly alike: one was suffered to be constantly foul with the mire of his sty; the other, washed every day and kept clean, far outstripped the former in thriving.†

It may be useful to add some further information on Live Stock, from the writings of Sir John Sinclair, President of the British Board of Agriculture. He proposed to a gentleman in England,* who is eminent for his knowledge and accurate observations relative to plants and animals, some questions concerning Live Stock. In one of his answers, he says—" I have found the food animals generally require, to keep them in proper condition, is much more nearly proportioned to their *height* and *length*, than to their *weight.*" In confirmation of this opinion, he adds, that one of his neighbours made a comparative experiment with the Devon and Hereford cows; and though fond of the former for their neatness, he gave them up, because " they would not nearly live upon the same food which supplied animals *stouter* and *more compact*, of the same weight."

To the question, " What is the best shape for feeding well with little food?" Mr. Knight answers—" The more deep and capacious the chest, and the shorter and lower any animal is, relative to its weight, the better adapted it will be to live and fatten upon little food; the more labour it will also go through; and I have always found the most short legged oxen to be the best labourers. Mr. Marshal also observes, in his Rural Economy of Gloucestershire, that the best labouring ox he ever saw, had the shortest legs."

I will detain the Society no longer than to make a few observations.

V. ON ORCHARDS.

I advert to this subject for the purpose of suggesting the utility of propagating Sweet Apples.

After providing a due proportion of apples for the table, and the ordinary purposes of cookery, I do not hesitate to express my opinion, that for all other uses, sweet apples are entitled to the preference.—The best cider I ever tasted in this county, was made wholly of sweet apples. They afford also a nourishing food to man and all domestic animals. What furnishes a more delicate repast than a rich sweet apple baked and eaten with milk?—I recollect the observation made to me by an observing farmer, before the American revolution, that nothing would fatten cattle faster than sweet apples. Mentioning this, a few years since, to a gentleman of my acquaintance in an adjoining state, he informed me, that he was once advised to give sweet apples to a sick horse Happening then to have them in plenty, the horse was served with them, and he soon got well: and continuing to be fed with them, he fattened faster than any other horse he had ever owned (and he had owned many) that was fed with any other food.

Mentioning to the same gentleman, what I had long before heard, that a good molasses might be made of sweet apples, he confirmed the fact by an instance within his own knowledge: and further expressed his opinion (and I have not known a man whose practical judgment was entitled to more respect) That it would not be difficult, by forming orchards of sweet apples, to supply molasses for the general consumption of the United States. I have never tasted any sweet apple molasses; but I suppose it has not (nor has honey) the rich sweet of molasses from the sugar-cane; yet, for family uses in general, it would be a useful substitute for the latter. The process in making it I suppose to be very simple.—The apples being ground, and the juice (or cider) expressed, at the cider-mill, it is immediately boiled, (that is, before any fermentation takes place) and the scum being taken off as it rises, the boiling is continued until the liquor acquires the consistence of molasses.

Sweet apples are of different degrees of sweetness. Those of the richest kinds should be chosen for the purpose of making molasses. But in grafting, the cions should be taken (as they ought to be for all kinds of fruit) not from old, worn out trees, but from those whose originals are in full health and vigour.—For it has been satisfactorily ascertained in England (and proofs of it are not wanting in our own country) that fruit trees have their infancy, (springing from seeds) youth, maturity, and old age, and that when they have reached this last stage, it is in vain that attempts are made to continue them. Or if the cions take, and grow for a few years, they are unproductive, and soon decay. The reason is plain: every cion is a

* The rotation here mentioned, is spreading through this state; but as for the *deep ploughing*, too many are unprovided with either horses or implements sound and strong enough to accomplish it. *Editor Am. Far.*

† See Massachusetts' papers. *Edit. Am. Far.*

* Thomas A. Knight, Esq.

part of the tree from which it is taken; and if this be in a state of decrepitude, so will be the cion; and although grafted on a youthful, thrifty stock, it will be of no avail.

FOR THE AMERICAN FARMER.

PROCEEDINGS OF THE

Agricultural Society.

OF ALBEMARLE, (VIR.)

ON THE USE OF OXEN.—No 1.

Extract of a letter from Geo. W. Erving, Esq. late Minister at the Court of Madrid, to a Committee of the Society—dated at Paris, July 15, 1819.

READ, May 8th, 1820.

I noticed in the very interesting address (of May 1818,) to your Society by Mr. Madison, a recommendation to encourage the use of oxer in preference to horses for agricultural labours: as oxen are very generally used in the greater part of Spain; I was induced by the President's observations to examine as far as I could, into the estimates made in that country of the superiority of those animals, and in the course of my inquiries met with a small work containing a great deal of important matter, and some curious details and calculations, fully justifying the preference which ought to be given to them: I beg leave herewith to offer it to you, pursuaded that you will have much satisfaction in the perusal of it, and that if the Society be disposed to adopt the ideas of the President, you may very much promote the object, by causing to be translated and laying before it, if not the whole, the most interesting passages of this little work, which as far as I can find, is the only one of any merit on the subject which has hitherto appeared. You will observe, that the writer insists upon the still more general use of oxen in Spain, as well as on the substitution of horses for mules in those labours where oxen cannot be so advantageously employed. Though a great part of his argument is founded upon circumstances peculiar to Spain, and all his calculations will not therefore apply to all countries, nevertheless there is much general reasoning which is applicable to every country where agricultural economy is studied; and which as appears to me, will tend very much to establish a preference of horned cattle over horses and mules in the United States; I say "horned cattle" because as you will notice, the cow in Spain bears her proportion of the labours of the field; even during the time of her pregnancy.

All that I have otherwise learnt from the most intelligent persons in this matter, goes to confirm the view taken of it by Mr. Madison. Oxen may not only be kept in full strength without grain, but in Spain on straw principally; perhaps the straw there, has more saccharine juice in it than ours:—But may not our corn-stalks be a substitute for, or even a better nourishment than straw? As to the tractability of the animal, the President has fully answered the objections ordinarily produced, and it may be added that the ox when once subdued is always to be depended on, whereas the horse when high fed, or after a long repose, is likely to have accesses of disobedience. That the ox may be used singly with a proper harness, as the President says, is abundantly proved in Castile, where nothing is so common, as to see in the light lands a single ox or a cow between a pair of small shafts. The superior celerity of the horse is amply compensated by the other qualities of the ox; this last ploughs more steadily and deeper;—the horses vivacity jerks the plough out of the ground, and for the very reason that he is lighter, he vacillates more in the direction that he takes; whereas where the ox plants his foot, his weight fixes him, and as his legs are short, and his head is always carried low towards the ground, he cannot well deviate from his right line—in this way he will plough a "fanega"(somewhat less than our acre) per day; horses and mules will plough a fanega and a half, but not so deeply or so well done. The ox works in the field from dawn till the heat sets in about 11 or 12; he then reposes, eats and ruminates for three hours, after which he works till night-fall; some persons give him two spells of repose, but that is considered as a bad method. For the field service it is not necessary to shoe him; on the road his shoes last a long while, and cost only about forty cents.

Mr. Madison seems inclined to allow that the ox is less fit for the road service, than the horse or mule; as to the disadvantage which belongs to his movement, and to the form of his hoof in a frozen road, I suppose that the objections must be considered as solid; but in a sandy or muddy road (not frozen) the broadness of his hoof as well as its cloven form is a manifest advantage. On the roads of Castile which are dry and hard, oxen will go with loaded wagons a league in two hours, horses go the same distance in an hour and a half. There usual day's journey is from four to five leagues, when the weather is not too hot; but though certainly the ox suffers more from heat than the horse, yet it is found in Spain that this disadvantage, is counter-balanced by his exemption from numerous disorders to which the horse is subjected; and perhaps the greater number of accidents to which he is exposed, ought also to be taken into the account.

Allow me to offer to you my best wishes for the success of your patriotic institution, and assurances of the very great respect with which I am,

Gentlemen, your very obedient serv't,

GEORGE W. ERVING.

To J. A. COLES, THO. M. RANDOLPH, P. MINOR, Esquires. } *A Committee of the Agricultural Society of Albemarle, Virg.*

Premiums offered by the Agricultural Society of Albemarle, May 8th, 1820.

As it is believed that great advantages would be derived from the general use of oxen instead of horses in husbandry, and other services—that by proper training they can be made to travel not only as fast with a loaded carriage if properly shod, but to plough as much land either singly or in pairs as the same number of horses, particularly if geared in horse harness, with such variations as will adapt it to their particular shape, or with improved yokes strapped to their horns. The society in order to ascertain their powers in these particulars, and the expense of maintaining them, offers a premium of thirty dollars for the best set of experiments calculated to place the subject in a satisfactory point of view.

2d. A premium of twenty dollars for the second best set of experiments. These premiums to be awarded in the autumn of 1821, and free for the claims of any farmer, whether he is a member or not.

3d. A premium of thirty dollars for the best *improved* and constructed plough for *three* horses.

4th. A premium of fifteen dollars for the best *improved* and constructed wheat cradle; to be placed and to remain as models in the society's repository. The premiums to be awarded in the autumn of 1821, and free for the claim of any person.

☞ In order more generally to disseminate the agricultural intelligence and improvements, made throughout the United States, the society resolve to present each of its members with the first volume of the American Farmer, edited at Baltimore by John S. Skinner, Esq. Those members already in possession of the first volume to be presented with the second, or the equivalent in money.

Resolved, that the Treasurer and Secretary jointly be authorised and required to carry the foregoing resolution into effect, and pay for the same out of any unappropriated funds belonging to the society.

Extract from the proceedings.

P. MINOR, Sec'ry.

FOR THE AMERICAN FARMER.

NO. II.

On the Culture of Cotton.

It is recommended to our citizens engaged in the practic or superintendance of the cultivation of the soil, that they use every occasion to add to their stock of scientific and technical knowledge, concerning their *profession*, and particularly in relation to each object of agriculture with which they may be engaged. The Cotton Plant or *Gossipum* of the Botanists, natural historians in the vegetable kingdom, and scientific writers in general, will be found so uniformly under that latin name, in all books of the circle of science, or of the particular branch or art, that it is only necessary to observe, that the reader will learn from such works its original country, its climates, varieties and proper soils, its ancient and modern uses, its difficulties and its facilities in cultivation, and preparation for sale and transportation.

In regard to the cotton district or region of our country, it is certain that cotton has long been cultivated in St. Mary's county of Maryland, where the *Baltimore* family and their companions made the first settlements, and in Talbot county in that state, as has been mentioned, and that it was raised during the revolutionary war, in useful quantities, to meet the wants of that time in the southern county of Cape May, in New Jersey. As that county is nearly surrounded by the salt bay of Delaware, and the ocean, it is more generally exempted from frost, than lands in the same latitude remote from the sea. Cotton has also been steadily raised, though in small quantities for family use, in the county of Sussex, of the Delaware state, on the head waters of the Choptank. The country of the United States, then from the 39th degree to the southern extent of the *Louisiana* cession on the *Rio bravo del Norte*, may be considered as *the cotton region* of the United States. This region or extensive district, will probably be found to be *the region of the wine grape*, and it is certainly all within *the region of the maize*, or Indian corn. These climatorial facts, and characteristics are of great importance, and should form a constant subject of reflection and comparison, as to capacity in production, between the United States and all other countries.

The three species of cotton cultivated *in United N. America*—are, 1st, *the green seed*, which is a great producer, and ripens early, but was difficult to clean until Whitney's saw gin was invented and improved. It is popularly and mercantilely called *upland* cotton. 2ndly, *the black seed* grown most in the lower country and *on the sea islands*, producing a fine, soft, long, and strong cotton, of a good staple. 3rdly, the Nanking, Nankeen, or yellow cotton, which was formerly raised in the midland and upper counties of South Carolina for domestic use, to save the cost of dying.

These cottons are all cultivated nearly in the same manner, but the saw gin is not used for the fine, silky, long stapled, sea island and black seed cotton. Rich, high lands is the fittest soil. In the interior, high swamp lands produce *the green seed cotton* in great abundance, and low tide and salt water lands and marshes, when banked and drained, have produced excellent crops of this last kind of cotton.

The plant of all the three kinds is annual in the United States, but the perennial may grow in the most southern part of Louisiana, on the Rio Bravo, or in the peninsula of East Florida. The planting season, in latitude 32° to 35°, begins in the latter part of March or early in April. The plough is used to break up the soil, and the drill to plant at distances of about five feet. The quantity of seed for an acre, is nearly one bushel. When it has risen to the height of a few leaves, the soil is ploughed up to the cotton on both sides. Some plant in holes ten inches asunder.

Cotton, in drills, should be thinned to facilitate and promote its growth. In choice high lands, sixty beds are made in an acre; but in inferior soils, eighty beds are made in the same space. The plants are to be thinned, when about four, five, or six leaves in height A few are to be left in each place, where the cotton is desired to grow. These are thinned down till two, or one only is left in a place. In very rich swamp lands, the plants are only suffered to be, at the last within a few feet of each other in the drills. In inferior lands, the plants are left ten and twelve inches apart, and are thinned eighteen inches or two feet. They formerly used the hoe at the time of thinnig. The earth is always to be *throw up to the plants*, and this is to be done once in a fortnight or three weeks. When the cotton is too rank or tall, some top the principal stem, but this producing a multitude of suckers is often omitted. Just before the middle of September, cotton is topped above the lowest blossoms, because, after that time, no blossoms mature to bearing. This gives the sun access, opens the pods, and the force of vegetation is not wasted on abortive growths. The grass must be taken away from the roots at the first hoeing, so of the others, raising the earth gradually into a point, to turn off the fall rains. As the 15th of June approaches the plants blossom which is followed by pods, and new blossoms and pods, till the frost checks and destroys the unripe. The harvest on the coast begins early in August and in September is general in the middle and upper country, continuing till December. The wool and seeds are found in three or four divisions of the ripe and bursting pods. It is picked and put into shoulder bags of the coarsest linen or stuff, and carried to the cotton house, and thence in a few days is spread to dry on a platform, which prepares the wool for the gin. The cotton-house and platform should join, to facilitate turning out, curing and turning in. The sea islands and lower country, produce from a 100 to 300 pounds per acre. The green seed is equally or more productive in the upper country, and according to soil, seed and care, the acre produces from 60 pounds to 300 pounds of clean cotton wool.

There is to be provided a suitable house for ginning by Whitney's gin, barrel gin, the gin of *Eve*, and the foot gin. Whitney's saw gin is a mill worked by oxen or water. The teeth in the circular iron plates serrated, and about three fourths of an inch apart, fixed to a cylinder, draw the cotton wool from the seeds, through the openings of iron straps, out of the bin and hopper, in which the cotton is placed. These opening are too narrow to suffer the seed to pass. The cotton is brushed off the saws by counter-moving brushes, on another cylinder. By an ox gin, 6 to 900 pounds are cleansed in a day. After ginning, the cotton is picked of all remaining broken seeds and trash, and packed in bags of 250 to 300 pounds.

Cotton was formerly the meanest manufacture of Great Britian; but since the establishment of their wonderful carding, spinning, weaving, printing and finishing machinery; and the substitution of cotton for silken, woollen, linen, and leathern goods, the demand for cotton has so excited to the culture, that the whole crop of the United States, exported and manufactured here in (of the crop of the year) 1817, was worth 42,000,000 dollars, a sum equal to two and one-third times the whole value of our domestick and foreign exports, at the commencement of the present government, thirty years ago. Cotton is the wonder of Agriculture in the United States, and the miracle of manufacture in Europe. It has almost entirely occupied our old *indigo* grounds, and labour; interfered with rice, indian corn, and tobacco; and but for the modern sugar cultivation would have been still more considerable. Preventing the usual growth of Indian corn, it has raised its price, lessened the proportion of pork, and increased the demand for wheat, rye and beef. It has narrowed the production of wheat, and all those other provisions, and at the same time increased our manufactures, so as to make new demands for them, at better prices than those of 1774 and 1784. *Domestic* manufactures had so risen, by *the influence of the cotton production*, that the two oldest states of Virginia and N. Carolina had above one fourth of the loams employed in 1810, before the impulse given to manufactures by the non-intercourse laws, the war, the double duties, or the present tariff, which is 60, 70, and 80 per cent, on coarse cotton goods. *The power of loom*, already making stout unbleached shirtings, at the expense for weaving of one cent only per yard—and the British weaver, making wide cambrick muslins at the cost for weaving of only one penny and one farthing stirling. Cotton goods bid fair to supplant, in a very considerable degree, many other fabrications. By the general use in the United States of cotton blankets, corduroys and velvets, cotton Kendals, siamois, Canton-flannels, and molletons, or swanskins, as substitutes for lincy, &c. among the planters, farmers and general inhabitants would render the cotton manufacture the first upon earth, to the immense and steady benefit of its own cultivators, and of the producers of sugar, tobacco, rice, bread grains and cattle of every name. For planters and farmers who raise cotton cannot produce those commodities, also, in any considerable quantities.

COLUMBIANUS.

TO THE EDITOR OF THE AMERICAN FARMER.

DEAR SIR,—enclosed I have the pleasure to transmit you an address of Mr. Law, President, to our Society, which was read at the last meeting on Monday 22nd inst.—The Pesident of the United States, the Secretaries of the Departments, the French minister, English Charge D'Affairs, with their suits, the Attorney General, and several other disiinguished personages attended, besides upwards of one hundred visiters of different parts.

Your obedient serv't,

A. W. PREUSS.

The Vice President's communication was postponed to be read at an adjourning meeting in June next.

It is highly gratifying to perceive an annual augmentation of Agricultural Societies, at the head of which are our late Presidents and Generals who after receiving all the honours their grateful country could confer, for beneficial services and long tried patriotism, retire like Cincinnatus to their farms; but instead of enjoying *otium cum degnitate*, still actuated by an unextinguishable zeal to do good to their latest breath, devote their leisure hours to imparting the results of useful reading and of practical experience of nature's works—justly it has been observed, that their communications would give credit to the oldest and most enlightened Societies in Europe. The Secretaries of Government, also in the midst of public avocations, merit grateful acknowledgements for attention to the importation of seeds, plants, &c.; although our profitable staple article, tobacco, diverts our attention from farming and our communications are few, yet we shall always be entitled to commendation for being the first, association established in Maryland, and it will always be a consolation to us to have given a beneficial example.

I had collected materials for this day's report from books, and my own observations and inquiries; but I have been induced to reserve them for another opportunity, or to insert them in the American Farmer, which is so generally perused by us, on account of its useful information.

A fact having been stated to me, which leads to many important considerations peculiarly interesting to us I have preferred imparting the train of ideas which it occasioned to any agricultural details.

The voters in Prince George's county have diminished, it is said from about 1900 to about 1300; whether this information be exact or not, must be ascertained by the next census:—All however agree, that the emigration of whites has been seriously considerable; many reasons may be assigned for this emigration of whites:—1st, The temptation of rich land at low prices in the western country—2nd, The want of Society with equals—3rd, The deterioration of the inlands by bad husbandry—4th, The diminution of wood—5th, The want of market towns.—I will not dwell upon this unwelcome, and I might say alarming diminution of our yeomanry, but endeavour to point out a remedy.

For this desirable purpose I must solicit your attention to manufactures, which though at the first glance apparently irrelevant, will be found essential to the farming interest, and the only means to detain and increase our white population.—An Agricultural Society in an adjoining state having deemed the landed interest deeply affected by measures proposed to congress for the encouragement of domestic manufactures, justifies me in making this much agitated question the principle topic of my present discourse.

Adam Smith has justly observed, that "the desire of food is limited by the narrow capacity of the human stomach, but the desire of the conveniencies and ornaments of building, dress, equipage and household furniture, seems to have no limit or certain boundary." "Nature" says Ricardo, "has necessarily limited the "Amount of capital which can at any one time be pro-"fitably engaged in agriculture, but she has placed "no limits to the amount of capital that may be em-"ployed in procuring the conveniencies and ornaments "of life"—it is a truth that every new enjoyment is the parent of a new desire.

That consumers for our agricultural products should increase with augmenting food, &c. you will acknowledge is most desirable, and that the consumers should be rather at home than abroad, as they must be adding to the wealth of the nation, by their products of industry given in exchange for products of the soil, will I trust be granted; for double industry is thereby obtained, and our country is rendered independent of foreign nations for clothing, funiture, ironmongery, crockery ware, glass, &c. which we almost exclusively import.

The first state of society is venatorial, pastoral and piscatorial, the second is agricultural, including the farmer, the third is manufactural co-operating with all, combining all for general prosperity. To the latter we are indebted for improvements in implements of husbandry, and for labour saving machinery—chemistry, mechanism, astronomy,* in short a knowledge of all nature's laws are essential to the two last—fellow-feeling and consciousness of general interest recommend their union.—Mr. Jefferson emphatically concludes a letter on manufactures by saying, "he who "is now against them must be for reducing us either "to a dependence on another nation, or to be cloth-"ed in skins, and to live like wild beasts in dens and "caverns."

An apprehension I am aware is prevalent, that foreign commerce will be diminished by manufacturing for ourselves; but much deliberation makes me conclude that it will increase as well as the coasting trade. The only truly desirable commerce, consists of the exchange of our indigenous products in a raw or manufactured state for the products of foreign climes, and it is evident that we shall bring back more silk, coffee, sugar, tea, spices, wine, &c. as increased industry enables us to export more.—The customs of Great Britain, are rated at about 50,000,000 of dollars, whilst ours do not exceed 19,000,000 and will be reduced this year to 15,000,000. Great Britain is the most manufacturing nation, and is also most advanced in agriculture; the two great sources of wealth, which co-operate to make her the admiration of the world.

It is proved by Mr. Colquhoun, that poor rates are heavier in a country merely agricultural, than in one whose inhabitants are merely manufactural—the reason is obvious, when the head of a family is sick or dies who is a cultivator, his wife and children become paupers; but if he be a manufacturer his wife and children can be employed *in* factories. Humanity and patriotism therefore dictate, that a nation ought not to be merely agricultural.

In seaport towns manufactures are particularly desirable, as they support the wives and children of absent sailors.—Poverty causes crimes and vices, and I have observed, that there were fewer prostitutes, fewer vagabondising boys, and fewer wretches in jails and poor houses, in manufacturing seaports.—The moralist and statesman, must therefore be an advocate for this perfectioning last state of society.

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* Quo sidere terram vertere, &c.—are the subject of Virgil's Georgics.

Writers on political economy very judiciously make a striking distinction between fixed capital, and circulating capital.—Land is a fixed capital given by Providence to man, who with the aid of sun and rain, and the study of seasons, &c. acquires, not only an abundance for himself, but also a surplus to give in exchange for articles of comfort made by others at home, or sent from abroad.—It is this bountiful dispensation of our Creator, which causes the variety of employments in a highly civilized prosperous nation. The manufacturer requires a greater circulating capital than the landholder, as he must establish as a fixed capital in buildings and machinery, as well as pay wages to daily workmen; as our future advantages from agriculture and the resources of our nation, must depend upon the multiplication of these capitals, I hope to be excused for making the following quotations from Ricardo.

"Suppose one person to employ in any business a fixed capital of 150*l.* and a circulating capital of 50*l.* and another to employ a fixed capital of 50*l.* and a circulating capital of 150*l.* and each to have a profit of 10 per cent. on their capitals, their accounts will be as follows:—

"At the end of the year the former to replace his circulating capital of 50*l.* with the profit of 10 per cent., would require - -	55 0 0
"And to replace his fixed capital, supposing it to last only ten years with 10 per cent. profit, at the present value of an annuity for ten years of 24*l.* 4*s.* makes 150*l.* - -	24 4 0
Total required	79 4 0

"The latter to replace his circulating capital of 150*l.*, would require with a profit of ten per cent. - - - - - - -	165 0 0
"And to replace his fixed capital of 50*l.*, being one-third of the former, - -	8 1 4
	173 1 4

Again Ricardo says, "Suppose an Engine is made which will last for a hundred years, and that its value be 20,000*l.*, suppose too that this machine without any labour whatever could produce a certain quantity of commodities annually, and that profits were 10 per cent. the whole value of the goods produced, would be annually - 2,000 0 0

"And an annuity of 2*s.* 11*d.* for 100 years, at 10 per cent. will at the end of that period replace a capital of 20,000*l.* - - - 2 11

Total required to be received to give 10 per cent. profit. 2,000 2 11

"If the same amount of capital be employed in supporting productive labour, and annually consumed in paying wages and reproduced, then to give an equal profit of 10 per cent. the commodities must sell for 22,000*l.*"

Here let us pause and contemplate the wonderful advantages of augmenting fixed capital, which consists of buildings, labour saving machinery, &c. Here we see the causes of our rapid progress during the last war, when our manufactures amounted to 28,000,000. Here we have the mystery of British aggrandisement developed—were one of the ancients to revive like one of the seven sleepers, and to be shown a steam engine, Arkwright's machinery, &c.—he would attribute all to supernatural power, and worship the imagined Deity, and with more rational idolatry than that of carved blocks and stones.

This pamphlet in my hand, is the 182nd Bulletin of the Society for the encouragement of national industry, under the heads of mechanic arts, chemical arts economical arts, rural economy, &c. they pay compliments to, and confer honours on those who liberate them, as they term it, from being tributary to foreign nations: their members travel to obtain the arts of other countries, and they erect the busts of Watts and others, who have benefited the human race by inventions; if these scientific men are in an error, we shall be singular for superior sagacity. The Columbian Institute at our metropolis, rushes into my mind, we had the same objects in view. We had a President with abilities and zeal, surpassed by no one—I refer you to his able address for expanded sentiments. I blush to think how this society has been patronised, and dare not venture to expatiate upon the benefits which might have arisen from it; but perhaps we are wild enthusiasts not to be encouraged.

I know that many complain of extortion by manufacturers during the late war, but it has been proved that the farmers benefited three fold by the rise in the price of wool; if every manufacturer's profits were exorbitant, they could not have continued, for competition would soon have reduced profit, it being the basis of all reasoning in political economy, that self interest actuates men to transfer their capitals to the most advantageous trade, and to level profits; remember also, the farmer will raise his price of food as manufacturers increase, and thus increase his own profits, whilst that of the manufacturer will be reduced.

Land speculations, and as my lamented friend Sir William Jones calls it, a many-acred aristocracy, have excited a manufactural phobia and antipathy, until at length agriculture is overdone† and manufacturers are undone.

That this important subject may be placed in a striking point of view, I will suppose that our manufactures had continued to proceed with the rapidity witnessed during the war, and before the order for resuming specie payments. I will suppose the numbers supported by manufacturers, to amount to 2,000,000, and I will estimate their consumption of cottons, of wool, of food, of candles, &c. at only a quarter of a dollar per diem, and it will amount to 182,500,000.—I will now suppose that these hands were forced by the suppression of manufactures, to become cultivators, and that they only doubled the amount of products beyond their own consumption, this would cause an augmentation of agricultural products to an excess. The Dutch burn a quantity of their spices to prevent an excess in the market; my proposition merely is to have manufactural consumers keep pace with agricultural producers.

Our exports in 1818, amounted in value to	93,281,133
Ditto in 1819, do.	to 76,142,521

For more particulars I must refer you to the pamphlets and memorials which abound on this topic, the address can only admit of hints for inquiry.

Hannah Glass, in her preface to the art of cookery, shrewdly observes, that every one is interested in her work, as most of His Majesty's subjects amuse themselves in her way.—Surely the farmer has a much more consolitary idea in the multiplication of trades, as all *must* eat. The author of Chrysal or the adventures of a Guinea, has entertained his readers with family anecdotes; were I to write the adventures of a five dollar note, I would show how it went from the issuer to carpenters, blacksmiths, &c. &c. till it came to the butcher and baker, and ultimately to the farmer—from whom it would again start to pursue the same vivifying circuit. I have experienced too frequently the disposition of man to start objections to any novelty, rather than to deliberate upon all its bearings; fortunately for my recommendation of manufactures, there is one in the adjoining county of St. Mary's, which supports directly and indirectly, about 150 persons. Mr. Hebb, a brother member of this Society, who has the merit of first establishing this manufactory, will I hope give the particulars of its progress—suppose the 150 to consume of food, &c. 35 cts. per diem, their expenditures will amount to nearly 14,000 dollars; those employed must have perished, or begged their way to leave the state, or must have been supported by the parish. If a manufactory could be established in Marlborough and Bladensburgh, we as farmers, would greatly benefit, and our white widows and children would be made comfortable.

Each of these villages is at the head of a navigable river in our county, with a command of water, if each employed 5000 manufacturers, they would give employ to builders and to a variety of workmen equal to as many more, and employ hundreds of seamen in bringing wool and cotton, lumber, &c. and each would cause more consumption of food, &c. than the seat of government. These would give us markets, and support the poor white women and children now soliciting charity all around. Surely it must be wise policy in this country, to introduce fixed capitals in labour saving machinery, where hands are so scarce—surely it is desirable to have consumers near our estates, as the value of lands rise by their vicinity to a market. It pains me to hear of the intended departure of most of my esteemed neighbours to the western country—their feelings are so pathetically described by the Rev. Mr. Bowles, that I cannot refrain from quoting his verses, written by a son compelled to sell and leave his paternal estate.

"If I could bid thee, pleasant shade, farewell,
Without a sigh, amidst whose circling bowers
My stripling time was passed, and happiest hours,
Dead were I to the sympathies that swell
The human breast, these woods that whisp'ring wave
My father rear'd and nurs'd, now to the grave
Gone down, he lov'd their peaceful shades, and said
Perhaps as here he mus'd, live laurels green,
Ye pines that shade the solitary scene,
Live blooming and rejoice—when I am dead
My son shall guard you, and amid your bowers,
Like me, find shelter from life's beating showers.

"These thoughts, my father, ev'ry spot endear,
And, whilst I think with heart affecting pain,
A stranger shall possess the lov'd domain,
In each low wind I seem thy voice to hear—
But these are shadows of the shaping brain,
That now, alas! my heart can ill sustain,
We must forget—the world is wide—th' abode
Of Peace may yet be found; nor hard the road—
It boots not, so, to ev'ry chance resign'd,
Whate'er the spot, we bear th' unalter'd mind—
Yet—Oh! poor cottage, and thou, sylvan shade,
Remember ere I left your coverts green
Where, in my youth I mus'd, in childhood play'd,
I gaz'd, I paus'd, I dropp'd a tear unseen—
That bitter from the fount of memory fell,
Thinking on him who rear'd you,
Now Farewell!

Not only is the population of the old Atlantic States diminished by emigration, but even emigration is checked.—That I may avoid dwelling on this unpleasant subject, I will cite some able remarks upon it from the Olive Branch in a note.*

† The price of wheat and of corn prove this.

* "In 1817, 22,240 emigrants arrived in ten ports: In 1818, in New York alone, from March 2nd, 1818, to December 21st, 1818, 18,929 were reported by the mayor of that city. Thousands and tens of thousands of artists, mechanics and manufacturers, with talents beyond price, and many of them with handsome capitals, escaped from misery and oppression in Europe, and fled to our shores as a land of promise, where they expected to find room for the exercise of their industry and talents. But the fond delusion was soon dispelled—as soon as they arrived, they sought employment at their usual occupations—none was to be found. Those whose whole fortune was their industry, wandered through our streets, in search even of menial employments, to support a wretched existence. Many hundreds have returned home, broken hearted and lamenting their folly, after having exhausted all their funds in a double voyage. It is easy to estimate the effects that must have been produced by the dismal tales in the letters written by those who remained, and the verbal accounts of those who returned. It is not extravagant to suppose, that every returned emigrant, prevented the emigration of twenty persons disposed to seek an asylum here.

"I hazard an estimate of gain, that might have been made by a sound policy, which would have encouraged manufacturing industry, and promoted emigration."

In page 240, the estimate will be seen, which makes the increased population in thirty years, amount to

That the temptation to emigration by the low price of Western lands has also tended to our depopulation, and to the great depreciation of our estates, cannot be denied;—this causes great loss to families whose lands are sold on a parent's death. On a former occasion I anticipated (alas! too truly) the fall we have experienced in the price of cotton. I will not cast a gloom upon this meeting by foreboding a decline in the price of tobacco, but let me entreat you to consider that European nations being now at peace, are turning their attention to every profitable article of cultivation, and that the press, with almost the velocity of light, by publications, price currents, &c. imparts the mode of cultivation, the amount of sales, &c. how then can we expect a monopoly, unless there be something peculiar in our soil or climate.—Every article by competition must soon be brought to its intrinsic valuation. I have given calm, and, I trust, impartial attention to the arguments of the opponents to governmental interference for domestic manufactures, and seek in vain for any but short-sighted selfish sentiments, there is nothing in accordance with the Roman axiom of the "*Idem velle atque idem nolle, quæ demum firma amicitiæ est.*" Fortunately, discussion will elicit light, and truth must ultimately prevail.

It is a great satisfaction to us, to be favoured with the attendance of so many respectable characters, and that the President of the United States whose parental regard extends to every thing which promises to promote the prosperity and happiness of his fellow citizens, has encouraged our society by his presence.

I will exhibit my imported implements of husbandry, and I solicit your attention to a very useful double shovel plough, which saves much labour in cultivating corn, tobacco, &c. surpassing in the opinion of judges, the cultivator and other preceding ploughs of a similar kind,—the inventor is Mr. Ballthrope. In viewing my farm I am conscious that my enterprise will be more conspicuous than my intelligence. I am but a late beginner, and hope on this occasion oral advice will teach me to correct mismanagement.—That I shall be requited for improvements I am doubtful, and my ardour is sometimes damped by the *cui bono?* You may smile at my apprehensions of a loss by an excess of agricultural products, and at my anxiety that the shuttle should be kept in motion as well as the plough; in my suggestions respecting manufactures, I do not flatter myself with giving any novel ideas,—I have been induced to submit them lest the numerous pamphlets and memorials on the subject should not have come to you, and that you may consider the important question now so much agitated, dispassionately, both as planters and farmers. I am confident that our society will be always conspicuous for liberal and enlightened sentiments, and for brotherly affection towards all denominations of industrious sustainers of their country's welfare.—Only by this spirit of amity can the several states of this extensive continent be preserved in union, and only by this consideration of mutual interest can we enjoy independence. Esto perpetua be our prayer.

May 22, 1820. THOMAS LAW.

MR. SKINNER—

Since the foregoing address, I have perused in the 64th number of the Edinburgh Review, the following observations, which so forcibly corroborate the suggestions I have hazarded, that I request you will indulge me by the insertion of them as a postcript.

"One of the most remarkable things in the last table, is the superiority of England over France, in the value of her agricultural produce, &c. &c. We find an excess in favour of England, a part of which must be attributed to the value which agricultural produce receives from the perfection of every other branch of industry, and from the use to which provisions are applied in this country, as they here feed the beings who animate the machinery which gives a tenfold value to force. Besides a metallic and paper currency, we have another circulating medium, a more immediate representative of labour, than either of these, the produce of our industry, our manufactures; which in every operation of barter, are cash to him who pays, while they are merchandise to him who receives; that is to say, they at once represent both cash and merchandise to each of the contracting parties. The higher price of provisions then in England, is a result of our manufacturing prosperity and consequently must exist as long as that does."

600,000—and their industry beyond subsistence, supposed it to be a quarter of a dollar per Diem—amount in the same period to 697,500,000 dollars.

This estimate I think very moderate, for if we had circulating capital enough to make a fixed capital, as the manufactures of England, amount to 300,000,000 of dollars—and our population in thirty years will double that of Great-Britain. Steam engines, wheels, &c. are used successfully for locomotion, as travellers support them by daily payments, in manufactures they are standing still for want of money.

OBSERVATIONS ON THE CHARACTER AND QUALITIES OF HERDS, TIMOTHY, & OTHER GRASSES.

TO THE EDITOR OF THE AMERICAN FARMER.

Brandywine, 25th 5th mo. 1820.

ESTEEMED FRIEND—I am pleased to find the Editorial note in last number of the American Farmer, discriminating between the different kinds of clover as also the Timothy, and Herds' Grass; the two latter have been so long cultivated, as to be as I had supposed sufficiently known, but I have found them several times spoken of in the Farmer as the same, and lately by our respected agriculturist T. Pickering.

The Timothy grass, with a cat tail head, as some term it, is so general and well known that I should suppose it scarcely needs further description, only the *common hay* of livery stables and taverns through the middle states.

The herd grass is frequently sown and mixed with the former in hay, supposed by many to be equally good; they ripen much about the same time, the top or seed spreads into numerous branches, resembling an oat's head, only more numerous in branches, with an abundance of seed, rising on good soils to 2 and 3 feet in height, and is often termed red top; one kind that is generally cultivated is of a *red* cast, and which in bloom has a remarkable red hue; the other kind is void of this red appearance, but is otherways the same as the former as far as I have been able to discover;* they are both sown in low grounds, and when first introduced bore a high character on account of the advantage of thriving in wet drowned lands better than timothy or any other grass.

This circumstance gave the herds' grass a recommendation beyond its real merits—it filled the soil whereon it grew with numerous fibrous roots, so as to make wet grounds more passable with teams in collecting the product of such lands, and at the same time produced a better substitute for the product of those soils, that were too wet for other valuable grasses; by this means, it was propagated until the seed being transplanted with hay on too high ground, the disadvantages then began to appear; the numerous roots as before mentioned, would take possession of the soil to the exclusion of every other kind, and every product of a better quality must give way to the strong spreading fibrous roots of the herds grass, it seeding so abundantly as to predominate; and the plough so efficacious to destroy every *other kind* is ineffectual as it regards this, without the aid of very dry seasons, and even then it is ineffectual to entirely destroy it; as the fence side and road sides, afford seed enough to introdnce it again into the fields.

The excessive predominance of root is objectionable on all high lands, as it lessens the product of the top by the soil becoming so bound with the abundance of roots, as to make it a diminutive production after a few years, and the quality not equal to many other grasses.

The soil becomes parched with drought in hot seasons, under a crop of this or any other that fills the surface with such a multiplicity of fibrous roots; the same remark is applicable to the timothy grass, though not so excessive in roots, yet a piece of land under either of those when ploughed in dry weather is remarkably exhausted of its moisture, when compared with the same kind of soil under a crop of either of the clovers or ripple grass, under similar circumstances in every other respect.

Although it ought to be observed, that those former described thirsty exhausters are very deficient in their succulent and neutritive qualities, when compared with several kinds less thirsty for humidity of soil, and abundantly more juicy in their constitution, which from my observation, I am ready to believe furnishes a richer food both green and dry; but what is remarkable is their requiring less from the soil, (of this I am fully convinced,) they must receive more from other sources, consequently requisition to a greater amount must be made from the surrounding atmosphere; being less in their demand for moisture of soil, and yet retaining so much sap through the dry season, a time when the juices are matured for preservation, appears to me ample proof of furnishing a richer food, when preserved in this state.

The herd grass therefore being adapted to wet soils, cannot be of the first quality for hay.

It being a well ascertained fact that *high lands*, from grasses calculated for such situations, judiciously selected, produces the most nutritive provender for cattle either green or dry, but more readily discovered in a dry state, when preserved at the crisis of perfection.

Thy friend,
CALEB KIRK.

* Therefore usually called white top.—*Edit. Am. Far.*

FOR THE AMERICAN FARMER.

Mr. SKINNER,—

The terms, annual, biennial and perennial will often occur in the American Farmer. I have therefore ventured to send you Mr. Miln's definition of them. To this definition, I may add that the mere existence of a Plant in a Plantule state from the fall of the year, through the winter to the next season, does not make it biennial—thus wheat and rye exist through the winter, and are still annuals—and so of many other plants, which become almost extinct to the eye in water. Biennials may do the same, i. e. begin their existence in the fall, and then live two complete succeeding summers.—I suspect the Trifolium Incarna-

tum commenced that way, or it could not have reached the early maturity it was in when I saw it last month on your table.

Is this the Lupinella or not? I cannot bring myself to believe, that Mr. Appleton intended to send so antiquated an article, as Sainfoin (Hedysacum Onobrychis) as a curiosity to this country. The seed vessel of the Trifolium Incarnatum, will be daggered and barked I think when ripe, and this might lead to some error. The word Lupinella, appears a term of diminution from its final,—and as clover has three leaves, and Lupin five on a foot stock, it may express that just as well as Lupinaster expresses another species of clover with quinate, or leaves five united on one foot stalk.*

These two Genera are so closely allied in natural character, that 23 Genera only are comprised in it, and they might have been confounded formerly. One of these is Psoralea, and Mr. Michaux has a Psoralea Lupinellus, so named because it has a solitary seed in a prickly seed vessel—this is the only place where I have ever seen the word in print. There was in Michelius' day (the Florentine) a division of clovers into three families—those with loose declining flowers—those with round heads compact as in cow clover; and those with oblong *hop* heads, the hop was then called Lupulus. The Trifolium Incarnatum, is an instance of this form, and Linnæus has a division of Lupulina, though not established exactly on this principle—perhaps this may be the root of the Provincial term Lupinella.

The extract from the treatise on agriculture, completely establishes the diversity of Saintfoin and Lupinella, and till better informed I shall think that Mr. Appleton never intended to send the H. Onobryclus, but some other article, and most probably this fine clover. Is there not a plate of it in Curtis?

Yours,

SILVANUS.

"Roots, in point of duration, are either annual, biennial, or perennial; that is, of one, two, or many years' continuance; the two first are attributes of herbaceous vegetables only; the latter is applicable both to herbs and trees. In some plants, both root and stem subsist for many years. Of this kind are all trees; the roots of which may be termed, by way of distinction, Radices fruticosae. In others, the roots only subsist during the winter, whilst the stalks, which decay and perish, are annually renewed from the root. Of this kind, are all those herbs, from this circumstance termed perennial. Biennials renew their stalk only twice; annuals exist but for one year, at the end of which time, both stem and root perish, and the individual is at an end. The last as is evident, can only be propagated from seed. Uniform and constant as nature is in all her productions, there are many perennial roots which become annual, when transplanted into cold climates. Nay, there are not wanting examples of shrubs losing their stems annually in such climates, in the same manner as the stalks of herbaceous vegetables perish in autumn, whilst the root continues in full vigour: sometimes even, in such circumstances, the shrub not only divests itself of its woody stem, and becomes herbaceous, but is metamorphosed in every respect, into an annual plant, and loses both its stem and root at the end of the year. Culture, on the other hand, may prolong the life of annuals. Thus, M. Duhamel mentions a root of barley, which put forth new stalks after the old ones were cut down in harvest, and produced a spike of flowers the following year."

Miln's Bot. Dictionary.

* Or big and little leaved clover.

HERD GRASS.

The article sold in Baltimore for herd grass seed, is the seed of what is called Red Top all over Maryland—probably the Agrostis Capellaris of Linnæus. This name (herd grass) the seed sellers say prevails from this to Pennsylvania—north of that, Timothy is called herd's grass. This confusion might be easily avoided, if the sellers were willing to let it be known, that our herd grass or red top are identical. It is a grass of great worth, both for pasturage and hay. It is the sweetest grass that grows, especially in its young state. It will grow in poorer ground than Timothy, and in a wetter soil than suits Timothy. It is probably not so permanent, though very easily reinstated; the seed being abundant and easily saved and taking without fail where sown. It is a lighter grass than Timothy which is its only fault. It will grow four feet high in wet ground, and is a later grass than Timothy. Our livery stables like it very well. Cows are very fond of the hay, and altogether it claims our attention more than any other of the late known grasses.

It is a native of Europe. S.

FOR THE AMERICAN FARMER.

The Stilton Cheese.

The most celebrated cheese of England, is that made at or near *Stilton*, in Huntingdonshire. It is known by the name of that place. It is not coloured, but it is a white cheese on the inside. Its shape is cylindrical, like two hatters' blocks set one upon the other. The preparation on the great scale, requires eight cows. The cream of all of one evening's milk is skimmed, and mixed with the whole of the new milk of the next morning. Then a tea-kettle full of warm water is poured into the mixture. The quantity of rennet is very small, as it is a rich cheese and of a very delicate flavour. The process of forming the curd is very slow as the climate of England, as far north as Huntingdonshire, is cool; as the month of September, when the milk is rich so long after calving, is the season, and as the quantity of rennet is small. The curd being so rich, when formed is very soft. It is taken out so as to leave behind as much as possible of the whey. The curd is put into a linen bag to permit the rest of the whey to drain or run off. This being sufficiently done, the curd is put into a hoop or case or mould of the shape and depth of the two hatter's blocks, and on the top a common wooden cover is put, of a size a little less than the hoop or case or mould, the weight of which is the only and slight pressure the moulded curd or new made cheese sustains. *It is never pressed by force or weights*, in the manner of most other cheeses. When the curd has drained and consolidated, so as to become firm enough to stand, it is taken out and set to drain, or dry and harden in a band of linen, which is fixed all round it. This band is changed every day till the cheese has become firm and sufficiently dry. They are eaten the next year, some persons prefer to keep them till they begin to mould, when, of course, they must be quite or rather over ripe. These cheeses are so rich and delicate, as to become heated, and to suffer in a close or warm place in a ship, and therefore are difficult to bring to America, in perfect condition.

The curd is not to be broken, as is done in making other cheeses. A sieve is used to drain the curd. A brush is employed every day after the cheese is formed and consolidated to brush the coat. A cheese soil is used to take the curd out of the whey to pass it from the place of first making into the hoop or mould.

* * * *

TO MAKE WALNUT KETCHUP.

Take half a bushel of green walnuts before the shell is formed, and grind them in a crab mill, or beat them in a marble mortar; then squeeze out the juices through a coarse cloth, and wring the cloth well to get all the juice out, and to every gallon of juice, put a quart of red wine, a quarter of a pound of anchovies, the same of bay salt, one ounce of allspice, two of long or black pepper, half an ounce of cloves and mace, a little ginger and horse radish cut in slices: boil all together till reduced to half the quantity; pour into a pan when it is cold, bottle it, cork it tight, and it will be fit for use in three months. If you have any pickle left in the jar, after your walnuts are used, to every gallon of pickle put in two heads of garlick, a quart of red wine, an ounce each of cloves and mace, long, black and Jamaica pepper, and boil them altogether till it is reduced to half the quantity, pour it into a pan, and the next day bottle it for use and cork it tight.

EXPERIENCED METHOD OF HEALING WOUNDS IN TREES.

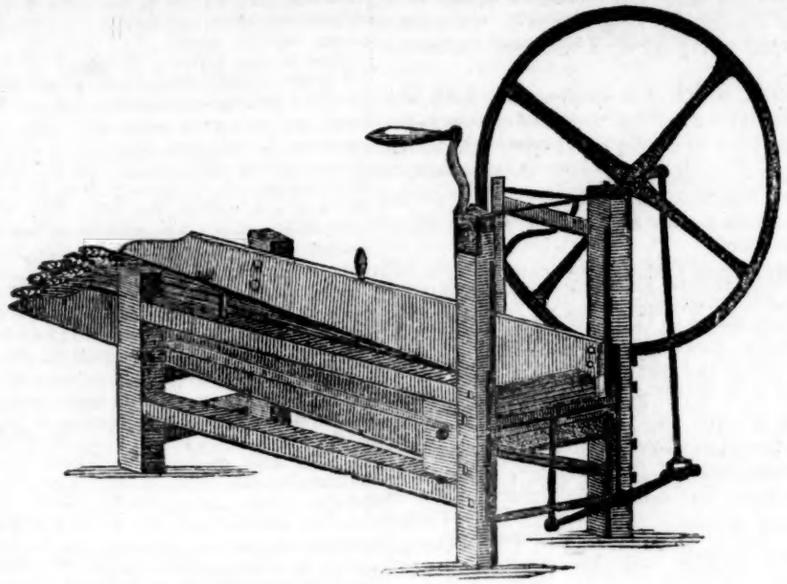
This method consists in making a varnish of linseed oil, rendered very drying, by boiling it for the space of an hour, with an ounce of litharge to each pound of oil, mixed with calcined bones pulverised and sifted to the consistence of almost paste. With this paste, the wounds of the trees are to be covered by means of a brush, after the bark and other substance have been pared, so as to render the whole as smooth and even as possible.

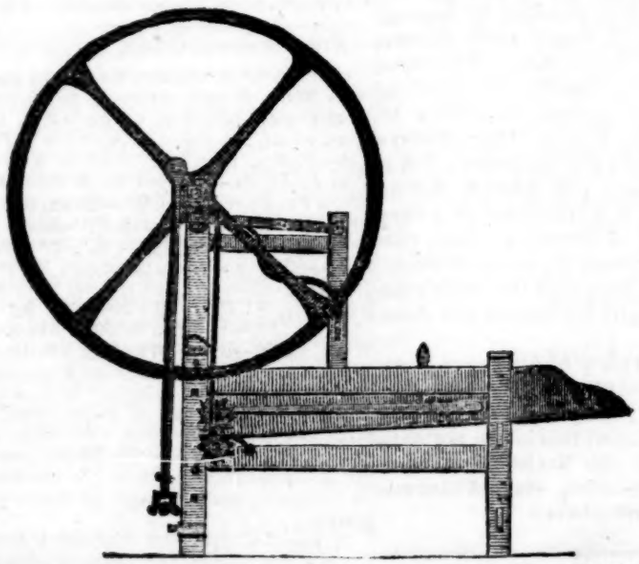
The varnish must be applied in dry weather, in order that it may attach itself properly.

TO TAKE THE STAINS OF GREASE FROM WOOLLEN OR SILK.

Three ounces of spirits of wine, three ounces of French chalk powdered, and five ounces of clay, mix the above ingredients and make them up in rolls about the length of a finger, and you will find a never-failing remedy for removing grease from woollen or silk goods.

N. B. It is to be applied by rubbing on the spot, either dry or wet, and afterwards brushing the place.





TWO DIFFERENT VIEWS, ONE A PERSPECTIVE, THE OTHER A SIDE VIEW OF

Hotchkiss' Patent Straw Cutter.

ARE PRESENTED ABOVE

This Machine was first patented in August, 1808. In its original form, the knife had but one edge, and cut only in its downward motion ; and although it fed itself, the feeding apparatus was very imperfect. The next improvement made by Mr. Hotchkiss, was to put two edges to the knife, so as to cut double the quantity in a given time with nearly as much ease. This machine was fed by a band. A wheel of two feet diameter was attached to the bottom slider, (where there is now a wheel of six inches diameter) and passed over a small whirl placed on the upper shaft, inside of the fly wheel. This method of feeding was liable to strong objections:—First, the band would always stretch or shrink according to the weather—again, the straw was constantly pressing against the knife, even when it was cutting—thereby occasioned great friction and labour, and caused the knife to spring from the frame, against which it cut, which prevented it after a short time from cutting clean. Neither did it cut any regular precise length. This machine took the premium of 75 dollars, for the cutting box, from the Boston Agricultural Society.

The Patentee obtained in January, 1817—a patent for the improvements which had been then made on the original struuctre.—But before the last patent was granted, the present Proprietor, (Mr. Eastman) for all the United States south and west of New York, had taken the agency, for these states—and he introduced them into Philadelphia and Baltimore. After devoting much time, and incurring considerable expense, he has brought them to a state of efficiency, not susceptible as we should think, of any further material amendment.—They are decidedly the best we have seen. These machines now consist entirely of iron and steel, except the *mere frame* and *box*—formerly the cast steel knife cut against *cast iron*, but the inequality in the texture of the two metals soon put the knife out of order, and steel facings are now screwed into cast iron fronts. These steel facings, one above, the other below, are formed with edges, acting, in relation to the knife like the blades of shears, and may be taken out of the frame, and ground and replaced at pleasure—and may also be moved outwards as they wear away—so as to be kept at a proper distance from the blade of the knife. The gate in which the knife is placed, is of cast iron, and runs in cast iron slides, which may also, be moved backward or forward with ease and precision. An idea may be formed of some of the improving changes which this machine has undergone—by comparing the diagram above with the one in the fourth volume of the Agricultural Society of Philadelphia.

Editor Amer. Farmer.

THE MULBERRY.

Public attention has been recently pointed in a more emphatic manner, to the cultivation of the Mulberry—as the food and means of breeding silk-worms, with a view to raising the material of silk manufacture in the Southern States—we give the following notice of it, which, if it be not deemed useful, may at least be found amusing and serve to give variety to the columns of this Journal, without departing violently from its leading objects.

Editor Amer. Farmer.

COMMON MULBERRY.

MORUS NIGRA.

HISTORY.

The mulberry tree is a native of Italy, and is now cultivated generally over Europe, and thrives very well in England. It is cultivated not only for its fruit, but as yielding fruit for silk-worms, which can only thrive on its leaves.

There are two kinds, the white and black. that are cultivated for the sake of the silk-worm ; but it is the white mulberry which is commonly cultivated for its leaves to feed silk-worms in France, Italy, &c. In Spain, as the Rev. Mr. Townsend informs us,* they prefer the white mulberry in Valencia, and the black in Grenada. The Persians generally make use of the latter, and Mr. Miller was assured by a gentleman who had made trial of both sorts of leaves, that the worms fed with black mulberry produced much the best silk ; but that the leaves of the black should never be given to the worms after they have eaten for some time of the white, lest they should burst.

Sir George Staunton says that the trees he observed in China, did not appear to differ from the common mulberry tree of Europe ; that some of them were said to bear white, and some red or black fruit, but that often they bore none ; and that the tender leaves growing on young shoots of the black mulberry are supposed to be the most succulent†.

Mr. Evelyn remarks, that the leaves of the white mulberry are far more tender than those of the black, and sooner produced by at least a fortnight. Nor is this tree less beautiful to the eye than the fairest elm, and is very proper for walks and avenues. The timber will last in water as well as the most solid oak, and the bark makes good and rough bast ropes‡.

The white mulberry and the silk worm were unknown to Theophrastus and Pliny. About the year of Christ 551, two Persian monks, employed as missionaries in some of the Christian churches established in India, penetrated into the country of the Seres, or China. There they observed the labours of the silk-worm, and became acquainted with the art of working up its productions into a variety of elegant fabrics. They explained to the Greek emperor at Constantinople these mysteries, hitherto unknown, or very imperfectly understood in Europe ; and undertook to bring to the capital a sufficient number of these wonderful insects. This they accomplished by conveying the eggs of the silk-worm in a hollow cane. They were hatched by the heat of a dunghill ; they were fed by the leaves of a wild mulberry tree, and they multiplied and worked in the same manner as in those

* Travels, vol. iii. p. 264.
† Embassy, vol. ii. p. 420.
‡ Sylvia; book ii. chap. 1.

climates where they first became objects of human attention and care. Vast numbers of these insects were soon reared in different parts of Greece, particularly in the Peloponnesus. Sicily afterwards undertook to breed silk-worms with equal success, and was imitated, from time to time, in several towns of Italy. In all these places extensive manufactures were established, with silk of domestic production.

From the reign of Justinian, it was mostly in Greece, and some of the adjacent Islands, that silk-worms, which he first introduced into Europe, were reared.

Soon after the conquest of Constantinople by the Venetians in 1204, they attempted the establishment of the silk manufacture in their dominions; and in a short time the silk fabrics of Venice vied with those of Greece and Sicily.

About the beginning of the fourteenth century the Florentine manufactures of silk appear to have been very considerable.*

It came much later into France; the manufacture of silk, though much encouraged by Henry IV. not having been fully established there, till under Louis XIV. by Colbert†. In England, it is well known, that all the endeavours of James I.‡ to raise mulberry trees, and make silk, utterly failed, and have never since been revived to any extent.

The difference which Linnæus sets down between the black mulberry and the white, is that in the former the leaves are subquinquelobate, bluntish, and rugged, in the latter undivided and shining; the fructification of the former diœcous, of the latter monœcous. These distinctions, however, are not exact. The black mulberry is a larger stronger tree; and the fruit is a dark blackish red, and more acid.

Mr. Miller's account is, that the black mulberry has generally male flowers or catkins on the same tree with the fruit, but it often happens that some of the trees which are raised from seeds have mostly male flowers and produce no fruit: and that he has observed some trees which produced only catkins for many years after they were planted, afterwards have become fruitful. This latter observation agrees with a general remark that I have made on monœcous trees, that whilst they are young they bear male flowers and very little fruit. Mulberry trees of a certain age are not only more fruitful than young ones, but their fruit is much larger and better flavoured.

This tree grows naturally in Persia, whence it was first brought to the southern parts of Europe. It is now become common in every part of our continent, where the winters are not very severe. In the northern parts of Sweden it will not live in the open air; and in several parts of Germany it is planted against walls, and treated in the same way as peaches and other tender fruits are here.

It was cultivated with us in 1596, by Gerarde. In some of the old kitchen gardens near London there are trees of a very great age, which are very healthy and fruitful, and their fruit is larger and better flavoured than those of younger trees. Bradley says that most of these were planted in the time of king James I., when there was a project of setting up a silk manufacture in England.

The trees which are designed to feed silk-worms should never be suffered to grow tall, but rather kept in a sort of hedge; and instead of pulling off the leaves singly, they should be sheared off together with their young branches, which is much sooner done, and is not so injurious to the tree.

It is surprising that this precept of Mr. Miller's has not been attended to, not only in England, but in many of the southern parts of Europe, where making silk is of some consequence, since the practice is followed in the East, and is in itself perfectly rational. Father Loureiro informs us, that in Cochinchina they root up the plants every third year, and make fresh plantations of the cuttings, because the young shoots afford a more delicate food for the worms, and produce a finer silk. Sir George Staunton relates, that in a part of China through which the embassy passed, mulberries were cultivated with the greatest care; and planted in rows, ten or twelve feet asunder, in beds of a moist, but not inundated, loamy earth, thrown about a foot high above the surface. The trees are frequently pruned or dwarfed, in order to make them produce a constant succession of young shoots, and tender leaves. Our planters recommend a dry soil for the mulberry: but it appears from the authors just quoted, that in China and Cochinchina it is cultivated in a very moist one, by the sides of rivers, or where rice is grown in trenches between the rows of trees.

There yet remains a hope that the cultivation of silk may be successfully introduced into these realms.

The thanks of the Society of Arts were given to Mr. Stevers, of Bauenhoff, in Livonia, the author of an excellent paper, on the manner of rearing and treating silk-worms in the northern parts of Europe: and the Society, in consequence of this communication, elected him one of their corresponding members.

* Robertson's India, p. 89, from Procopius; also p. 110. See Gibbon's Hist. vol. iv. p. 71, under Justinian.

† Evelyn, book ii. chap. 1.

‡ See part of king James' letter to the lord lieutenant of each county in England.

THE FARMER.

BALTIMORE, FRIDAY, JUNE 9, 1820.

☞Agreeably to public notice, the Agricultural Society of Maryland, convened on Wednesday last at 4 P. M. at the Pavilion Gardens.

It was very gratifying to perceive that a much more lively and more general interest is now taken in the objects of this Society, than has been hitherto manifested.—The meeting was highly respectable in its numbers and character, and we had the satisfaction to recognize in the midst of it, several distinguished farmers from this and from neighbouring counties.

A very interesting address, appropriate in the selection of its topicks, with reference to the condition of Maryland husbandry—was delivered by R. Smith, Esq. the President of the Society. It will be recorded in the American Farmer, as soon as we shall have published several now on file, which have been sent to us by order of the Societies in other States. After the address was delivered, the Society proceeded to the view and examination of various machines, some of which were calculated by their labour-saving powers, to prove a great acquisition to the agriculturist, and to do much credit to the ingenuity and public spirit of their inventors. We have not now, either time or room, neither would it become us, to anticipate a minute report, either of these, or of the very beautiful cattle of both sexes, and of various breeds exhibited by different gentlemen; but we may say, in general, and with great truth, that they reflected much credit on the taste and judgment of their owners: who deserve the special thanks of the friends of Agricultural Improvement, for having thus, as we may say, led the way and broken the ice. The difficulty which consists in making a beginning, is now overcome, the wedge has entered—an honourable feeling of emulation will spread throughout the state, and the time fast approaches when we shall see on a given day, annually in Maryland, an Agricultural Jubilee—where the Farmers and Planters from all the Counties, will congregate to exhibit, to claim premiums for, to sell and to buy, the most excellent in their kind of every species of live stock; grains, grasses, implements, &c. &c. In a word, we regard the last meeting as highly auspicious to the views of the Society, indicating beyond a doubt, that the spirit of Agricultural Improvement, which has accomplished so much in other states, is taking fast hold of the public feeling in Maryland. May an ardent zeal for cultivating to the highest perfection, the best sources of private comport and national wealth, succeed to other passions, under the influence of which so little has been done, either for social harmony—for the plough, or for internal improvements of any kind.

Present Prices of Country Produce in this Market.

Actual sales of Wheat—White, 94 cts. to $1—Red, 90 to 95 cts.—Corn, white, 46 to 48 cts.—Yellow do. 45 to 47 cts.—Mixed do 45 cts.—Rye, 55 to 57 cts.—Oats, wharf, 37½ cts—Hay, per ton $17—Straw, do. $10—Flour, from the wagons, $4 50—Whiskey, from do. 32 cts.—Butter, pr. lb. 20 cts.—Eggs, 15 cts Green Peas, per bushel, $1—Lamb, per quarter, 50 to 62½ cts.—Veal, per quater, $1—Beef, prime pieces, 10 cts.—Live Cattle, $6 to $7—Potatoes, per bushel 75 cts.—Strawberrys, per quart, 12½ cts.—Cherries, do. 10 cts.—White Lead, ground in oil $17—Dry, do. $15—Oil, $1 10 to $1 20—Tar, $1 75—Turpentine, soft, $2—Spirits, do. 30 to 35 cts.—Rosin, $2—Pitch, $2 50—Beans White $1 25—Black-Eye Peas, 62½ to 70 cts.—Lard, in small kegs, 10 to 11 cts.—Bacon, 10 to 11 cts.—Maryland Tobacco, a few hhds. sold the present week of wagon fired, at $11 and $15 50—Virginia Tobacco, a few hhds. old crop, good quality, sold on Tuesday for $8 50, new crop, $6 and $8 50—Kentucky do. $5 to $6. Kentucky Tobacco, 50 hogheads, sold this week for from 5½ to 6½ cts. per pound.

Note.—An erroneous impression prevails that tobacco is sold by the long hundred—whereas it is sold by the pound; it is to be regretted that all commodities are not sold in the same way, it would be the means of avoiding much confusion. Coffee for example, is sold in this market per pound—Sugar by the long hundred.—All south of this to Louisiana, Sugar is sold *per pound*, in Maryland and Pennsylvania, by the long hundred. How much perplexity would it save, if the rules in all these cases were uniform, and simple?

In Louisiana, on Sugar of that state, ten per cent. tare is allowed—in Maryland, 15 per cent. and in Pennsylvania 12!!!

A FARM FOR SALE.

Containing 165 acres of land, which, it is believed, is not surpassed by any in the county for richness of soil, purity and abundance of water, variety of wood and convenience to market.

It is not hazarding too much to say, that if in the possession of an industrious man, skilled in the management of such an estate, that the product of this farm would be greater than that of any other in this state.

Inquire of the Editor.

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